

Sump drainage and Groundwater Treatment at the Mainova AG Company Site, Frankfurt/Main



BAUERUmweltgruppe

Client:	Hochtief Construction AG, Germany
Engineering Design and Supervision:	ETN Erdbaulaboratorium Tropp-Neff und Partner, Hungen
Scope of Work:	Installation and Operation of a Groundwater Treatment Plant, Treatment of PAH, BTEX, Phenol, TPH and Cyanide Contamination.
Contract Period:	September 2004 to May 2006



Project

Dewatering and groundwater treatment were carried out to remove PAH, BTEX, Phenol, TPH and Cyanide since September 2004 on the area of the Mainova AG in Frankfurt/Main. The maximum flow rate of the groundwater treatment plant was 15 m³/h.



The treatment plant with a pre-settling stage, a filter stage, a liquid phase activated carbon stage, as well as ion exchangers for the removal of cyanides.

Remediation Site

In the course of civil engineering measures on the area of the Mainova AG in Frankfurt/Main dewatering measures became necessary to keep the excavation pit dry. Due to the location of the construction measures at a former gasworks site groundwater had to be treated before it was discharged into the canal.



Treated water is discharged into the rain water channel or into the combined sewage channel.

Result

Dewatering is carried out by a subcontractor, company Koop Hydraulic Engineering. In total 20 pumping wells are installed in the two excavation pits. The pumps are connected to the groundwater treatment plant over a frostproofed circuit pipe. Given lowering levels are to be kept by means of control levels. The treatment plant consists of a pre-settling stage, a filter stage, a liquid phase activated carbon stage, as well as ion exchangers downstream for the removal of cyanides. The two layer filters are backwashed manually. The cleaned water is discharged into the rain water channel or into the combined sewage channel depending upon weather conditions. Dewatering and groundwater treatment are supervised by a so-called Telenot-system. Thus prompt action in case of malfunction is ensured.